

CS-9704RS

INTEGRATED ALARM/REMOTE START SYSTEM

INSTALLATION / OPERATING MANUAL

INTRODUCTION:

This is a combination vehicle security alarm and tach-less remote start system for 12-volt motor vehicles. There are a variety of built-in features, which you may or may not use. Some require the addition of a relay, diode or other component to function properly, which is not included in the kit. *Additional labor and parts will be required for some vehicle with Anti-Theft Systems such as GM PassKey/Passlock/VATS, or Key-FOB based RF Transponder systems.* This system is designed for single vehicle operation with automatic transmissions only. Technical support is available from the following sources:

TECHNICAL SUPPORT (800)-998-6880
Monday - Friday 8:00am - 4:30pm Pacific Time

Fax-On-Demand 805-526-9540
Web Site: www.crimestopper.com
E-mail: tech-support@crimestopper.com

CRIMESTOPPER SECURITY PRODUCTS, INC.
1770 S. TAPO STREET, SIMI VALLEY, CA. 93063

This device complies with FCC Rules part 15. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference that may be received, including interference that may cause undesired operation. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modification could void the user's authority to use the equipment.

INSTALLATION CAUTIONS & WARNINGS

1. **BEFORE BEGINNING**, check all vehicle manufacturer cautions and warnings regarding electrical service (AIR BAGS, ABS BRAKES, AND BATTERY).
2. **TO PREVENT A POSSIBLE DEAD BATTERY** remove vehicle dome light fuse while working on the vehicle. MAKE CERTAIN TO REINSTALL FUSE PRIOR TO TESTING FOR DOOR TRIGGERS.
3. **DO NOT EXCEED MAXIMUM OUTPUT RATINGS - SERIOUS DAMAGE MAY OCCUR.** Limits for alarm and remote start functions are listed in the main diagram and wiring descriptions page. If you are unsure about current load, measure the load with an AMP-METER.
4. **REMOVE MAIN SYSTEM FUSE(S)** before jump starting the vehicle. DAMAGE MAY OCCUR TO SYSTEM IF PROPER PRECAUTIONS ARE NOT OBSERVED.
5. DO NOT INSTALL CS9704RS ALARM/AUTOSTARTER in vehicles with MANUAL TRANSMISSIONS. Accidentally left in gear, a remote started vehicle could become a self-propelled threat to life and property.
6. **DO NOT EXTEND CS-9704RS AUTOSTARTER IGNITION HARNESS LENGTH.** When mounting module, be certain to place module so that main harness reaches all ignition switch wiring. Extending these wires could result in poor performance.
7. **DO NOT ROUTE ANY WIRING THAT MAY BECOME ENTANGLED** with brake, and gas pedals, steering column, or any other moving parts in the vehicle.
8. **WHEN STARTING THE VEHICLE IN A GARAGE**, make sure that door is open or adequate ventilation is provided.

SUGGESTED COMPONENT MOUNTING

Control Module: Driver's side underdash, the unit should be placed as high as possible, not easily accessible.

Shock Sensor: Mount with wire ties to an under dash wire harness or fasten with screws to a panel.

Siren: under the hood to fender-well or other body surface with the open end facing downward.

LED in a visible location on the dashboard or console. Drill an 11/32" hole at the chosen location.

Override/Program button: hidden location, but accessible to the user in case the system must be disarmed without the use of the transmitter. This switch is also used to program certain features.

Antenna Assembly: inside front left windshield (close to window frame) using supplied double sided tape.

WIRING

J-1 **6 PIN HI-CURRENT CONNECTORS** (See Wire diagram at back of manual for Details)

RED:	+12V INPUT
RED:	+12V INPUT (30 Amp)
BROWN:	IGNITION 1 (Secondary Ign. Output)
YELLOW:	IGNITION 1 (Primary Ign. Output AND Input)
ORANGE:	ACCESSORY (20 Amp)
PURPLE:	STARTER OUTPUT

J-2 **10 PIN MAIN HARNESS PLUG**

WHITE WIRE: PIN 1: PARKING LIGHT CIRCUIT

Connect to switched parking light wire at back of light switch. If this is not possible, connect directly to one of the parking lights at the front of the vehicle. This wire has an in-line fuse to prevent excessive current from being drawn from the system. European may vehicles require separate right and left circuits. Use a dual relay or 2 diodes to separate the output signal.

RED WIRE: PIN 2: Alarm Power (10 amp fuse)

Connect to +12 Volt source. Recommended location for this connection is at the vehicle battery positive terminal.

BROWN WIRE: PIN 3: + SIREN OUTPUT (2 amp max. output)

Connect to RED siren wire.

BLACK WIRE: PIN 4: SYSTEM CHASSIS GROUND

Connect to chassis metal of the vehicle. Scrape away any paint or dirt from the connection point to ensure a good connection. We recommend the kick panel area for your ground point.

ORANGE WIRE: PIN 5: STARTER KILL / NEGATIVE ARMED OUTPUT

Provides continuous 150mA ground output when system is armed. This output is used for disabling the starter when the system is armed and/or to activate other devices such as scanner LED's, window modules, voice modules etc. For starter kill, cut starter wire and connect between 87A and 30 on relay. Connect orange wire to 85 and connect 86 to Ignition voltage that has power in crank position.

WIRING

GRAY WIRE: PIN 6: Engine Monitor (used for tach mode only)

Used to monitor when the engine is running. Connect to negative terminal of ignition coil, crankshaft position sensor or ECM/PCM tach wire. An alternate method is to wrap several turns around a spark plug wire and fasten with wire ties or hi-temp plastic clamps. *See programming selection for engine monitor type on page 10 under "Remote Start Programming Options".*

GREEN WIRE: PIN 7: DOOR TRIGGER (for negative [grounding] switch)

Identify the wire that reads ground when any door is open and 12 volts when all doors are closed. Connect this to the green door trigger wire to allow the alarm to trigger when any door is open. Some vehicles use a diode to isolate driver door. In this case you need to run an additional wire from the other doors to this trigger wire to allow triggering from any door.

BLUE WIRE: PIN 8: HOOD/TRUNK TRIGGER (Grounding switch type / Mandatory Connection!)

This wire is an input trigger for a grounding hood or trunk pin switch. It is used to trigger the alarm and also to inhibit remote start if the hood is open. Connect to existing hood and trunk pin switches, which read ground when open. Diode isolate existing switches to avoid any feedback to, or from vehicle's electrical system. If no existing switches are available, install new pin switches (it may be necessary to drill a hole) and connect to BLUE wire of alarm. Note: DO NOT mount new pin switches in water pathways.

PURPLE WIRE: PIN 9: DOOR TRIGGER (positive type switch)

Same as green wire above except this wire is used for vehicles that show a positive voltage (12 volts) when the door is open such as Ford.

YELLOW WIRE: PIN 10: BRAKE INPUT (for positive switch)

Connect this wire to the foot brake switch wire that goes to 12 volts when the foot brake is depressed. This input is used to reset remote start after entering the running vehicle and turning the ignition key on.

WIRING

J-3 2 PIN PLUG (WHITE)

RED-BLACK WIRE: PIN 1: DOME LIGHT ILLUMINATION (-) (REQUIRES RELAY)

Connect to terminal 85 of relay. This wire turns the dome light on for 30 seconds upon disarming of the alarm. If the ignition is turned on or the alarm is re-armed, the dome light will turn off again.

WHITE-YELLOW: PIN 2: HORN HONK OUTPUT (-) (MAY REQUIRE RELAY)

This wire provides a pulsed 150mA negative output for honking the vehicle's horn when the alarm is triggered. Connect this wire to the horn relay in the steering column. If there is no horn relay you must install one.

NOTE: Some vehicle horns operate only with ignition on. This will require rewiring the horn circuit in order for the alarm system to operate the horns. Call technical support for details.

J-4 2 PIN PLUG (BLUE) **PROGRAM/OVERRIDE BUTTON**

J-5 2 PIN PLUG (RED) **LED INDICATOR (Red flashing light)**

J-6 3 PIN PLUG (RED)

GRN/BLK	PIN 1:	NEGATIVE REMOTE OUTPUT (Optional)
RED	PIN 2:	FACTORY DISARM (Negative pulse)
YELLOW	PIN 3:	VACUUM INPUT (Used when installing a vacuum switch for engine monitor)

J-7 3 PIN PLUG (WHITE)

GREEN	PIN 1:	NEGATIVE LOCK	Connect directly to negative lock/unlock systems. If vehicle uses positive door lock signals or reversing polarity type, then external relays must be added. Door lock wires are usually found in
RED	PIN 2:	+12V For Relays	
BLUE	PIN 3:	NEGATIVE UNLOCK	

J-8 4 PIN SENSOR PLUG (22 GAUGE WIRES)

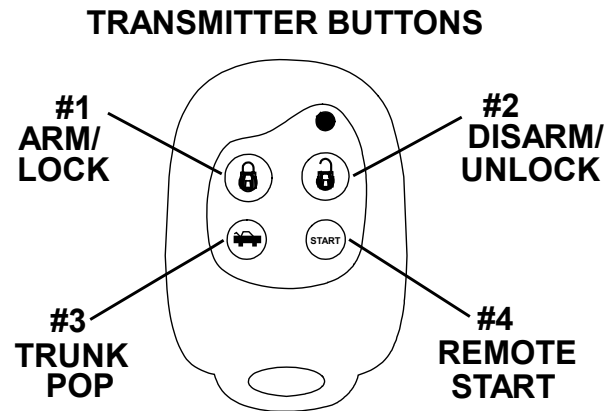
WHITE	PIN 1:	NEG. PRE-WARN	The Dual Stage Pre-Warn Shock sensor connects directly to Alarm Brain with 4-Pin harness. Note: If adding additional sensors, you must diode-isolate the extra sensor's trigger wire. Place a diode in-line with band (cathode) towards the sensor.
BLACK	PIN 2:	SENSOR GROUND	
BLUE	PIN 3:	NEG. TRIGGER	
RED	PIN 4:	SENSOR +12V	

OPERATION

This system performs the following tasks by pressing one of the buttons on the hand-held transmitter:

- **ARM / LOCK**
- **DISARM / UNLOCK**
- **TRUNK POP**
- **REMOTE START**
- **PANIC**

Note: You may not have all of the available features depending on your particular installation. Some features require additional parts and/or labor.



ARMING:

Press the arm/lock button on the transmitter. You will hear a single siren chirp and the lights will flash once. The red LED in the vehicle will start flashing. The system will arm, the doors will lock (optional feature) and the starter will be disabled (optional feature). If after a 5 second delay there is an intrusion or disruption to the vehicle body, the alarm will sound with siren, lights and honking horn for 45 seconds (*Horn does not sound with shock sensor activation*). If a low-level shock to the vehicle body is detected, the pre-warning sensor activates sounding 6 quick siren chirps and 1 light flash. If a higher-level shock is detected, the siren will sound continuously and the lights will flash on and off for 45 seconds. Turn the sensor control knob clockwise to increase sensitivity and counter-clockwise to decrease sensitivity.

DISARMING:

Press the disarm/unlock button on the transmitter. You will hear 2 siren chirps and the lights will flash twice. The dome light turns on and the dash LED stops flashing. If the alarm had triggered in your absence, you will hear 3 siren chirps.

OPERATION

REMOTE ENGINE START:

Press and hold the Remote Start button on the transmitter until you hear 3 siren chirps (release button) then the parking lights will turn on. The vehicle will start and run for 15 minutes unless you press the Remote Start transmitter button again or press the foot brake in the vehicle. If the vehicle fails to start on the first attempt, the system will try 2 more times before aborting the remote start process.

TRUNK POP / OPTIONAL FEATURE:

Press the trunk pop button on the transmitter. *If the system is armed, you must disarm it first or the alarm will trigger.*

PANIC FEATURE:

In the event of an emergency situation, press and hold the arm/lock button on the transmitter for about 2-3 seconds until the siren sounds. Press the disarm/unlock button to turn off.

ADDITIONAL FEATURES

AUTOLOCK/UNLOCK:

The doors will automatically lock when the ignition is turned on and will unlock when the ignition is turned off. *If a door is open the unit will not lock to prevent keys from being locked in.*

VALET:

To disable the Alarm *and* Remote Start sections of the system while still allowing door lock/unlock, turn the ignition on and press the override/program button until the dash LED turns on solid (about 2 seconds). Repeat the process to re-enable the features. The siren will chirp 2 times and the dash LED will turn off.

PASSIVE ARMING:

Passive arming means that the alarm will arm itself 30 seconds after the ignition is turned off and the door is opened and closed. This feature can be turned off if desired in option programming.

SILENT ARMING:

The system can be armed and disarmed without the siren making any sound if you prefer. See the alarm programming options to enable this feature.

OPERATION

ACTIVE RE-ARMING:

Active Re-arming means that the system will re-arm itself 30 seconds after disarmed with the transmitter if a door has not been opened. This is handy if the vehicle is accidentally disarmed without you knowing it. This feature can also be turned off with the programming options.

OVERRIDE:

If you have lost the transmitter or it stops working for any reason and the Alarm is armed, you will have to open the door with the key, which will activate the alarm. Turn the ignition on and press the override/program button about 2 seconds. The Alarm will disarm and enter the Valet mode, which allows you to use the vehicle until you can repair/replace the remote transmitter at which time you can take the vehicle out of valet.

ALARM PROGRAMMING OPTIONS

Programming options are accessed by turning the ignition on and pressing the override/program button 5 times within 5 seconds. You will hear a 2 second chirp from the siren. Within the next 5 seconds press the override/program button again the number of times that corresponds to the listed feature below. The siren will chirp once for each button press. Once you are at the desired option number, press the lock or unlock button on the transmitter to change the option. If the lock button is pressed, 1 siren chirp will sound. If the unlock button is pressed, 2 siren chirps will sound. Pressing TX button 2 for any of the options will change the selected option from default to the alternate setting (i.e. pressing the unlock button when the option for Autolock is selected will turn Autolock off. The Autolock feature is ON by default from the factory). See list below for option selections.

<u>Option Number</u>	<u>Feature Description</u>	<u>Button #1 (Lock) Default</u>	<u>Button 2 (Unlock)</u>
1.	Passive Arming	ON	OFF
2.	Lock w/Passive Arm	ON	OFF
3.	Autolock on/off	ON	OFF
4.	0.7 or 3 Second Lock Pulse	0.7 Sec.	3 Sec.
5.	Double Unlock Pulse	OFF	ON

ALARM PROGRAMMING OPTIONS

SILENT ARM/DISARM PROGRAMMING:

To eliminate siren chirps, turn the ignition on and press the transmitter's remote start button for about 3 seconds. You will hear a short double chirp. After the ignition is turned off, there will be no siren chirps for arm, disarm **and remote start engage/reset confirmation**. To revert back to siren chirps, perform the same procedure (there will be 2 short double chirps when re-enabling chirps).

ACTIVE RE-ARM PROGRAMMING:

To disable this feature, turn the ignition on and press the transmitter's lock button for about 3 seconds. 2 siren chirps will sound confirming the feature has been disabled. To re-enable active rearming, perform the same procedure (only 1 siren chirp will sound).

REMOTE START PROGRAMMING OPTIONS

The 4-position dipswitches are used to select Remote Start options as follows:

Dip Switch Number	Settings	
#1 Tach/Tachless or Vacuum	ON = Tach/Tachless	OFF = Vacuum
#2 Crank Time (.8 or 1.25 Sec.)	ON = .8 Sec.	OFF = 1.25 Sec.
#3 Gas / Diesel	ON = Gas	OFF = Diesel
#4 Engine or Tachless Monitor	ON = Tachless	OFF = Engine Monitor

TACH/TACHLESS MODE:

In *Tach/Tachless Mode*, the selection of dip switch #4 determines if the system will be monitoring the gray Engine monitor wire or if no wire will be used (Tachless Mode).

VACUUM MODE:

In *Vacuum Mode* (switch #1 off), connect the Yellow Vacuum Monitor wire to a vacuum switch (not included) which connects to an engine vacuum hose. When there is no vacuum (engine not running), a ground will be present and the starter will crank. When vacuum is present (engine running), the switch will activate removing the ground.

REMOTE START PROGRAMMING OPTIONS

CRANK TIME:

This feature controls the length of time the starter stays engaged. If the default (0.8 seconds) is not long enough to start the engine, change the setting to 1.25 seconds.

GAS / DIESEL:

Set this switch to select the proper vehicle fuel type. Selecting Diesel delays starter activation about 10 seconds to allow warming of glow plugs.

TACHLESS or ENGINE MONITOR:

When switch #4 is on, the system is in the Tachless mode and it is not necessary to connect the gray Engine Monitor wire. When switch #4 is off, the unit monitors engine RPM/Pulses through the Gray wire. The wire must be connected to a valid source when #4 is in the OFF position.

NOTE: For ease of installation, select Tachless mode first. If the vehicle will not remote start, turn Switch #4 OFF and connect the Gray wire to a tach source.

TRANSMITTER PROGRAMMING

The supplied transmitters are programmed from the factory to operate the system. In the event you need to add another transmitter or reprogram any transmitter to the system, follow the procedure below. ALL TRANSMITTER CODES MUST BE LEARNED DURING PROGRAMMING.

1. Turn ignition on and off 3 times within 5 seconds leaving it on the 3rd time. (on/off, on/off, on) A single siren chirp should sound if this was performed correctly.
2. Press the override/program button for approx. 3 seconds then 3 siren chirps should sound.
3. Press the #1 button on the transmitter. You should hear a single siren chirp when the code is accepted, then and repeat this step for each remaining transmitter.
4. Turn the ignition off and wait a few seconds before trying any of the transmitters.

TROUBLESHOOTING

UNIT SHUTS DOWN 4-5 SECONDS AFTER REMOTE STARTING:

The unit does not sense the engine in Tachless mode. Turn dip switch #4 OFF and wrap the gray wire around a plug/coil wire. The module will sense inducted RF/Engine noise in the gray wire allow the engine to stay running longer than 4-5 seconds.

EXTENDED RANGE ANTENNA:

The supplied antenna plugs into the 4-pin connector at the far left side of the module. This antenna also incorporates the receiver and therefore must be connected or the system will not operate. The antenna should be mounted inside the vehicle close to the left side windshield molding on the driver's side. With included double side tape, mount the antenna housing to the lower end of the window in a vertical position with the single black antenna wire coming out of the topside. Route the connector side of the cable down the window molding. Extend the protruding antenna wire fully upward, tucking it into the left window molding. This method allows for maximum range with a low visual profile.

STARTER DOES NOT ENGAGE WHEN ARMED:

One side of external Starter Kill Relay coil must be connected to Orange wire while the other side must be connected to Yellow Ignition wire from module.

If an external parking light relay is used, add a 1-amp diode across relay coil (terminals 85,86). The band end (cathode) of the diode connects to the same terminal as the White light wire.

SIREN CHIRPS DISAPPEAR:

Remote Start button was held down too long when starting vehicle and the alarm silent arm feature was accidentally changed. Turn ignition key on and press Remote Start button about 3 seconds to re-enable siren chirps.

NO RESPONSE FROM EITHER TRANSMITTER:

Check for proper power/ground connection and check for Antenna connection. The antenna included with this system has the receiver and antenna inside the small case therefore it must be plugged in to the main module for the unit to receive commands from the transmitters

